REMARKS

Claims 6-10, 21, 22, 26, 27, and 35-45 are pending in this application, with Claims 6, 8, and 37 being in independent form. Claims 6, 8, and 37 have been amended. Favorable reconsideration is requested.

Claims 6-10, 21, 22, 26, 27, and 35-45 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,600,257 (*Leas et al.*), in view of U.S. Patent 4,891,577 (*Ishikawa*). Applicants submit that independent Claim 6 as well as the claims dependent therefrom are patentably distinct from the cited prior art for at least the following reasons.

Claim 6 is directed to a method for testing an optical component. The method includes providing a golden electrical component that generates signals having known characteristics. The method also includes non-frangibly connecting the optical component to a high-frequency probe and non-frangibly connecting the high-frequency probe to the golden electrical component. The method further includes transmitting an electrical signal from the golden electrical component to the optical component, and identifying a response by the optical component to the electrical signal.

Among other notable features of the method of Claim 6 are non-frangibly connecting the optical component to a high-frequency probe and non-frangibly connecting the high-frequency probe to the golden electrical component. Because the optical component is non-frangibly connected to the high-frequency probe, the process of testing an optical component with a desired golden electrical component can be repeated easily by removing and replacing the optical component with another optical component without the need to break or create non-removable, frangible connections to the high-frequency probe, such as, for example, solder joints. In addition, because the golden electrical component is also non-frangibly

connected to the high-frequency probe, the process of testing different types of optical components with a desired golden electrical component can be performed easily by removing and replacing the golden electrical component with a different golden electrical component without the need to break or create non-removable, frangible connections to the high-frequency probe, such as, for example, solder joints.

Leas, as understood by Applicants, relates to an apparatus for testing integrated circuits and to arrangements for testing integrated circuits at the wafer level. According to *Leas*, in one embodiment a test fixture includes a test head that includes a test wafer and a bed-of-nails contactor unit. (Col. 5, ll. 56-58). The test wafer carries a plurality of integrated circuit test chips, each of which corresponds to a product chip. (Col. 5, ll. 63-66). The contactor unit is affixed to the front surface of the test wafer and is comprised of a plurality of elongated probes, or electrical contact members electrically connected to test chip pads of the test chips. The contact members are electrically and physically attached to test chips pads of the test wafer by wire bonding, then formed as an integral unit by means of an insulative material such as epoxy, and finally planarized as a unit so that probe ends of the contact members will define the contact plane of the test head in a hairbrush or bed of nails structure. (Col. 6, ll. 27-34). Apparently, the probe ends of the contact members in the contact plane contact corresponding locations of the product wafer (i.e., the device under test). Thus, the connection between the test chips and the contact members are not intended to be easily removed except by breaking the bond(s) between the test chip and the contact members. Moreover, in describing another embodiment, *Leas* also notes that other mounting technologies, such as TAB bonding, can be used to connect the test chips to the contact members. (Col. 11, ll. 10-13). Also noted in *Leas* is that solder bump mounting facilitates removal and replacement of test chip if one fails without the need for

removing other portions of test head. (Col. 11, ll. 13-17). In such a case however, the frangible solder joints must be broken to remove the test chip. One of skill in the art will recognize that such solder bump joints, as well as the other types of attachment methods described in *Leas* for connecting the test chips to the contact member, are frangible connections requiring breakage of a bonded (i.e., soldered) connection. For these reasons *Leas* teaches away from using non-frangible connections.

Indeed, nothing has been found in *Leas* that is believed to teach or suggest either "non-frangibly connecting the optical component to a high-frequency probe" or "non-frangibly connecting the high-frequency probe to the golden electrical component", as recited in Claim 6. Such features are supported at least in Fig. 1 and in paragraph [0015] of the published version of the present application. That paragraph states, in part:

> Test apparatus 100 holds an optical component 120. Test apparatus 100 is secured to a PCB 130 by connectors (nut 135, bolt or screw 136, nut 140, bolt or screw 141). Optical component 120 includes a lead 125. PCB 130 includes a pad 145 for a high-speed electrical component on the PCB (not shown). A probe 150 connects lead 125 to pad 145.

(paragraph [0015], lines 2-8). (*See also* paragraph [0022]).[1,2] Also, in an example embodiment wherein the high-frequency probe is a spring-loaded probe, no soldering or bonding is required to connect the probe 150 between the lead 125 (i.e., part of the optical component) and the pad 145 (i.e., part of the PCB). (*See*, e.g., paragraph [0017]). Non-frangible connections provide the

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[1]It is of course to be understood that the claim scope is not limited by the details of these or any other particular embodiments that may be referred to.

[2] In an embodiment described in paragraph [0022] a PCB can be a golden PCB (PCB containing golden components) used to test an optical component of unknown quality.

benefits of reuse and interchangeability of the test apparatus, optical component, and PCB, without requiring the use and breakage of soldered connections, as is required in *Leas*.

Ishikawa relates to a system for measuring noise characteristics, and was cited in the Office Action for disclosing the use of a high-frequency probe. However, nothing has been found in *Ishikawa* that is believed to remedy the deficiencies of *Leas* with respect to teaching or suggesting the foregoing features of Claim 6.

Indeed, nothing has been found in either *Leas* or *Ishikawa*, that would teach or suggest "non-frangibly connecting the high-frequency probe to the golden electrical component" and "non-frangibly connecting the optical component to a high-frequency probe", as recited in Claim 6.

In view of the above, Applicants submit that even if *Leas* and *Ishikawa* were attempted to be combined as proposed in the Office Action (which, in any event, is not admitted as being obvious or technically feasible), the result still would fail to disclose those features of Claim 6. Accordingly, Claim 6 is believed to be clearly allowable over the cited references and therefore withdrawal of the rejection under 35 U.S.C. § 103(a) is respectfully requested. Independent Claims 8 and 37 include features similar to those discussed above with respect to Claim 6. Therefore, those claims are also believed to be patentable over those references for at least the reasons discussed above.

The other claims in this application are each dependent from one or another of the independent claims discussed above and therefore are believed to be patentable for at least the reasons discussed above. Because each dependent claim also is deemed to define an additional aspect of the invention, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

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